REMARKS

In view of the above amendments and following remarks, reconsideration of the present application is respectfully requested.

By this Amendment, claims 14-16 & 18-21 have been amended and claims 22-23 have been canceled. Accordingly, claims 14-21 are pending in this application. Support for the amendments can be found, for example, by at least Figures 1-3 & 6-8 and paragraphs [0089]-[0109] of the publication of the present application. It is submitted that no new matter has been added.

The Applicants appreciate the courtesy extended by Primary Examiner Aristotelis Psitos for conducting a telephone interview with the Applicants' Representative on January 18, 2011. The following remarks include the substance of issues discussed during the interview.

35 U.S.C. §112 Second Paragraph Rejection

The independent claims have been rejected under 35 U.S.C. §112, second paragraph, for reasons A) - H) as contained on pages 3-5 of the Office action. Without intending to acquiesce to the aforementioned rejection, amendments have been made to each of independent claims 14, 16, 18, 19 and 21 so as to improve the clarity of such claims. In view of such amendments and the following comments corresponding to A) – H) as contained in the Office action, it is submitted that the independent claims are now in full compliance with the requirements of 35 U.S.C. §112, second paragraph:

A) It is asserted by the Examiner that data being recorded in units of clusters does not add limitations to the disc structure itself. Applicants submit that there is no need to add limitations to the disc structure itself since the claims are not directed towards merely a blank

disc. For example, amended independent claim 14 is directed towards, inter alia, a write once optical disc comprising a user data area having at least one defective area and having a temporary defect management area. Thus, it is presumed that the optical disc is formatted so that information can be recorded thereon, and the disc has clusters. In another words, claim 14 does not merely recite the structure of a blank disc. Accordingly, it is deemed unnecessary to include limitations directed towards the disc structure itself.

B) The Examiner has asserted that it is not clear if the term "structure" refers to a data structure. Moreover, it appears that the Examiner is not sure if such data structure is present in the TDMA. It is noted for the Examiner's understanding that the "structure" written in the claims is a "data structure" and it is present in the TDMA. Accordingly, the independent claims have been amended to clarify "structure" is a "data structure". Particularly, the independent claims have been amended to recite a temporary defect management area including one or more data structures for updating defect management. Moreover, it is noted that "are recorded" in the claims means that the temporary defect management area has a data structure suitable for the update of the defect management. Accordingly, since the temporary defect management area has a data structure suitable for the update of the defect management, a novel defect management technique is achieved due to such data structure.

C) The Examiner has asserted that the "structure" is ignorant of what it does. By this amendment, the independent claims have been amended to recite that the write-once optical disc includes a user data area having at least one defective area. Moreover, the independent claims recite a temporary defect management area including one or more data structures for updating defect management, and each structure performs update separately. Accordingly, such claims correspond to a disc in which information is written in the user data area, which has not been

finalized, and in which a part of the user data area is a defective area. They also correspond to a disc in which information is written in the user data area, which has been finalized, and in which a part of the user data area is defective. Accordingly, patentability of the claims exists and is independent from whether or not there is an updating of the "structure" since the optical disc has a data structure suitable for the update by the recording apparatus.

D) By this amendment, the independent claims have been amended to recite that the optical disc includes a user data area having at least one defective area. Moreover, the independent claims recite that each of the data structures includes at least one not-defective cluster in which a defective area list and structure information are included. Thus, it is presumed that a non-defective cluster is present in the temporary defect management area. Of course, an optical disc in which all clusters in the temporary defect management area are defective areas is a defective product as well. However, the present application is not directed towards such a disc in which all clusters are defective. Also, the defective area list and the structure information are used to indicate the position of a defective area that may occur in the user data area other than the temporary defect management area, and the substitute sector. As understood from this, the present application is directed towards an optical disc in which not all clusters in the temporary defect management area are defective areas, but at least one defective area is present in the user data area, as now clearly recited in the amended independent claims.

E) The Examiner has asserted that the is no guarantee that any defects exist. By this amendment, the independent claims have been amended to recite that the optical disc comprises a user data area having at least one defective area. Moreover, the independent claims recite that the defective area list includes entries for the at least one defective area in the user data area of the optical disc. Such entries in the defective area list indicate defects that were found when data

was written into the user data area. Accordingly, it is submitted that the claims now clearly recites at least one defective area in the optical disc.

F) Claim 14 of the present application is directed towards an optical disc comprises a user data area having at least one defective area. That is to say, claim 14 is directed towards a novel technique for recording entries concerning defective areas in a user data area of an optical disc which is a physical product. Claim 14 is not directed merely to the physical aspect of the optical disc, but includes the disc which has been formatted for recording so that the entries concerning the defective areas are sorted in accordance with information on the defective areas. Accordingly, it is submitted that claim 14 clearly and positively claims an optical disc comprising at least one defective area in a data user area of the optical disc and a sequence of entries in a defective area list which have been sorted in accordance with information of the defective clusters.

G) The temporary defect management area may be composed of only one cluster or may be composed of two or more clusters. When the temporary defect management area is composed of only one cluster, the defective area list and the structure information are recorded in the last and only cluster. When the temporary defect management area is composed of two or more clusters, the structure information and a part of the defective area list are recorded in the last cluster among the two or more clusters. The remaining parts of the defective area list are recorded in clusters other than the last cluster. The recitation of the structure information and the last cluster in the independent claims is intended to be interpreted in accordance with such explanation. Accordingly, it is submitted that such interpretation is clear from a technical point of view as explained and from the claim language itself.

H) The pointer in the structure information (TDDS) indicates the position of a cluster including a part of the defective area list. It should be noted here that the position indicated by the structure information is of the defective area list, not of the defective area. This is because, as described above, the defective area is present in the user data area and it is presumed that not all of temporary defect management areas are defective. Note also that "a part" is "a part of the defective area list" as clearly recited in each of the independent claims. Accordingly, it is submitted that the meaning of the pointers in the structure information and each of the clusters constituting a part of the defective area list is clear from the recitation of each of the amended independent claims.

II: With respect to "when the structure is updated" in claim 16, the optical disc is a recording medium and is subject to rewriting by the apparatus. With regard to the phrase "when the structure is updated", the timing at which the update is performed is when the entries of the defective area list are sorted. Accordingly, it is submitted that the meaning of the phrase "when the structure is updated" is clear from the recitation contained in claim 16.

In view of the aforementioned amendments and clarification, it is submitted that the independent claims are in full conformance with the requirements of 35 U.S.C. §112, second paragraph.

35 U.S.C. §112 First Paragraph Rejection

Next, it is noted that the Examiner has rejected claims 14-21 under 35 U.S.C. §112, first paragraph, for the reasons contained in paragraph 2 on page 6 of the Office action. This rejection is respectfully traversed for at least the following reasons.

According to the Specification of the present application, the temporary defect

management area is present in the lead-in area as shown in Fig. 4A and as described in paragraph [0079] of the publication of the present application. The temporary defect management area is composed of N pieces of TDMSs (TDMS#l, TDMS#2, TDMS#3, ... TDMS#N) as shown in Fig. 6 and described in paragraphs [0093]-[0096]. As one example, suppose that, among the N pieces of TDMSs, TDMS#j is present in five clusters (cluster #l to cluster #5), among which cluster #2 is a defective cluster. The defective area list is recorded in cluster #l, cluster #3 to cluster #5 except for cluster #2. The temporary defect list (TDFL) and the structure information (TDDS) are recorded in the last cluster, namely cluster #5. In this example there are two or more not-defective clusters. The defective area lists and structure information (TDDS) written in these clusters do not have defects.

In this way, the Specification of the present application describes a temporary defect management area in which the defective area list and the structure information are written in one or more clusters. The Examiner has asserted in the Office Action that: "the specification ... This TDMA has three (3) subcomponent areas with one (l) non defective cluster and two (2) defective subcomponents...". However, as readily apparent from above explanation, the structure asserted by the Examiner is different from the structure actually disclosed in the specification of the present application.

On the other hand, the temporary defect management area recited in the claims of the present application has one or more structures for updating the defect management. The structure for updating the defect management is composed of one or more not-defective clusters, and includes the defective area list and the structure information.

The Examiner appears to interpret the defective area list recited in the claims as a not-defective subcomponent, and the structure information as a defective subcomponent having the

position information of a defective subcomponent. However, in the claims of the present application, the temporary defect management area is clearly recited to include both the defective area list and the structure information. Thus, it is not the intention or interpretation of the claims to define the temporary defect management area as requiring either a not-defective subcomponent or a defective subcomponent having the position information of a defective subcomponent. Accordingly, it is submitted that each of claims 14-21 are in full compliance with the requirement of the first paragraph of 35 U.S.C. §112.

35 U.S.C. §102(e) Rejection

Claims 14-21 have been rejected under 35 U.S.C. §102(e) as being anticipated by Park et al (USPN: 7,630,283), hereinafter "Park", for the reasons contained in paragraph 3 of the Office action. This rejection is respectfully traversed for at least the following reasons.

Particularly, it is submitted that the Park reference fails to disclose or suggest that, in the temporary defect management area, the defective area list for each updated data structure of the defective management includes entries that have been sorted in accordance with the information of the defective areas, and the structure information, which includes plural pieces of position information indicating positions of clusters each of which constitutes a part of the defective area list, is arranged in a last cluster of each data structure, as recited in amended independent claims 14, 16, 18, 19 and 21.

According to the above recited features in which the entries in the defective area list have been sorted in accordance with the information on the defective areas, and the structure information includes position information for the defective area list whose entries have been sorted, even if the entries constituting the defective area list are positioned discretely in the updated structure for the defect management in the temporary defect management area, the

plurality of entries in the updated structure for the defect management are arranged on the memory in the order in which the entries were sorted originally as far as the entries are read out onto the memory by using the position information in the structure information (see Fig. 8 and paragraphs [0103]-[0109]). Accordingly, an entry written in a defective cluster and the succeeding entries need not be written in sequentially order, thus providing increased freedom for arranging the defective area lists (see paragraphs [0160]-[0162]) .

It is submitted that the aforementioned features recited in independent claims 14, 16, 18, 19 and 21, as well as the aforementioned advantages resultant therefrom, are not disclosed or suggested by the Park reference.

According to column 5 (lines 17-26) of the Park reference, recorded in the TDMA are (1) a TDFL (Temporary Defect List) where information on the defective areas and the position information of the replacement-recorded areas are recorded and managed in the form of a list, and (2) a TDDS (Temporary Disc Definition Structure) for storing the position information of the TDFL. The structure and relationship between TDFL and TDDS are shown in FIGS. 6 and 7. Moreover, according to column 6 (lines 38-60) of the Park reference, the TDDS and the TDFL are recorded in the TDMA as shown in FIG. 6, and if a user requests a disc finalization for terminating the data recording on the optical disc, a series of operations for copying and recording new TDDS and TDFL information stored in the TDMA into a separately arranged DMA are performed during the disc finalization.

However, the teaching of Park and the aforementioned features recited in independent claims 14, 16, 18, 19 and 21-23 of the present application differ from each other in the order of entries included in the defective area list concerning defects, wherein the order of entries is determined when the defective area list is written into the Temporary Defect Management Area

(TDMA). In the Park reference, collectively stored TDFLs are used when the defective area list is written. More specifically, when defect_entries (Defect_Entry #1 and Defect_Entry #2) are present in the Nth recording TDFL shown in FIG. 7 and a defective area is newly found, a new Temporary Defect List TDFL #n+1 is recorded into the temporary defect management area. The TDFL #n+l includes Defect_Entry #1 and Defect_Entry #2 that are present in the Nth recording TDFL and a new defect entry, Defect_Entry #3. Subsequently, when a further defective area is newly found, a new Temporary Defect List TDFL #n+2 is recorded into the temporary defect management area. The TDFL #n+2 includes Defect_Entry #1 and Defect_Entry #2 that are present in the Nth recording TDFL, Defect_Entry #3, and a new defect entry, Defect_Entry #4. In addition, the TDDS of the Park reference has a pointer which only indicates one position of the newest TDFL [see FIG. 6 and column 6 (lines 26-28)].

As apparent from above, the update of the defective area list disclosed in the Park reference is merely adding a new entry to the entries having been recorded in the defective area lists and writing them in the TDMA. The collective updating and storing as disclosed in the Park reference is clearly different from sorting the entries in accordance with the information concerning the defective areas and writing the entries into the updated structure for the defect management in the temporary defect management area, as recited in independent claims 14, 16, 18, 19 and 21 of the present application.

The update of the TDMA disclosed in Park is merely adding a new entry to the entries having been recorded in the defective area lists and writing them in the TDMA. That is, Park merely discloses that the entries are recorded in accordance with a specific arrangement of defect entries, such as Defect_Entry #3, Defect_Entry #1, Defect_Entry #2. Accordingly, the Park reference clearly fails to teach the feature that entries in the defective area list for each updated

structure for the defect management in the temporary defect management area have been sorted in accordance with the information on the defective clusters, as recited in each of the independent claims of the present application.

Particularly, it submitted that the Park reference fails to disclose or suggest the features of the updated structure of the defect management, namely, the defective area list for each update structure for the defect management in the temporary defect management area includes entries that have been sorted in accordance with the information on the defective areas, and structure information indicating the positions of the sorted entries is present in the last cluster in the updated structure of the defective management, as recited in each of independent claims 14, 16, 18, 19 and 21 of the present application.

In view of the foregoing, it is submitted that the present application is clearly allowable and the Examiner is kindly requested to promptly pass this case to issuance.

In the event, however, that the Examiner has any comments or suggestion of a nature necessary to place this case in condition for allowance, then the Examiner is kindly requested to contact the Applicant's representatives to expedite allowance of this application.

Respectfully submitted,

/Dhiren Odedra, Reg. #41,227/

Dhiren Odedra
Reg. No. 41,227

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Panasonic Patent Center
1130 Connecticut Ave., NW, Suite 1100
Washington, D.C. 20036
Phone: 202-912-3800
Fax: 202-912-0774
Customer No. 42212